

air force missile test center

AIR FORCE SYSTEMS COMMAND



Prepared by
The Office of Information
Headquarters, Air Force Missile Test Center
Patrick Air Force Base, Florida

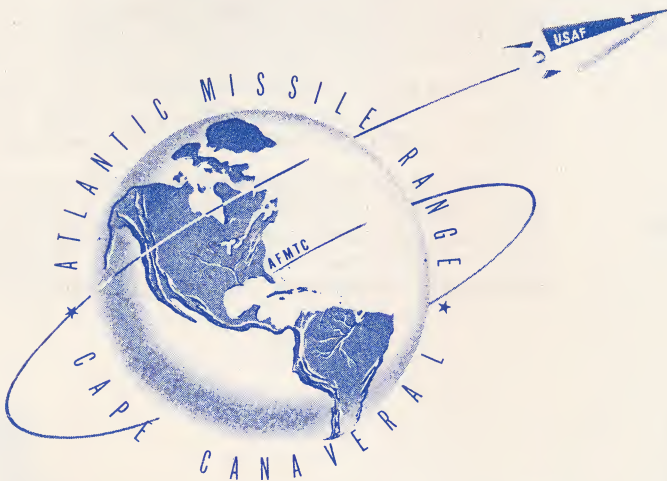
THIS PAMPHLET SUPERSEDES AFMTCP 190 - 1 DEC. 1960

Designs: Visual Presentation Branch, DCS/Comptroller, PAFB
Printing: Field Printing Plant, PAFB

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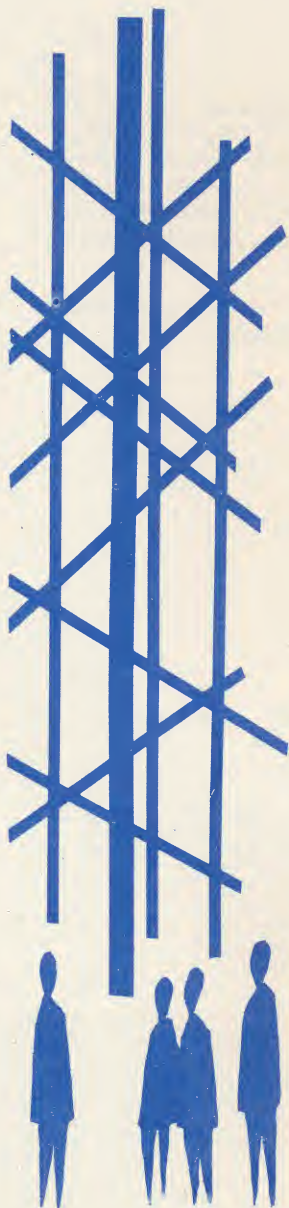
This booklet is designed to provide visitors with a general understanding of the Atlantic Missile Range, operated by the Air Force Missile Test Center, and its world-famous launch site, Cape Canaveral Missile Test Annex.

We hope your visit to the area will be pleasant and enjoyable.



AIR FORCE MISSILE TEST
CENTER
Patrick Air Force Base
Florida

visitors



We wish that every American could visit Cape Canaveral, and that we could make favorable reply to the thousands of requests we receive every year. Unfortunately, several factors prevent us from opening the Cape to the general public. One of these is security. Every visiting individual or group must be personally escorted to avoid the many classified areas, so that a large staff would be required for escort duty alone. Secondly, even a routine and carefully regulated visit interferes to some extent with the costly and tightly scheduled test programs underway.

For these reasons, visitors must be confined almost exclusively to officials with a need to know, and to newsmen who will share their experiences with the public through newspaper, magazine, radio and television.

As you might expect, a high degree of security is exercised by the Air Force Missile Test Center, especially in the operation of Cape Canaveral, the launching site of the Atlantic Missile Range.

Persons working at Cape Canaveral must undergo a security check before they are issued a badge. This badge will admit them only to those areas necessary to their work.

Visitors must be escorted at all times within the Cape and there are many areas to which they are denied access. Photography is possible only with special permission and under certain specified provisions. Security guards are provided by Pan American World Airways in accordance with their Air Force contract and exercise full police authority.

By contrast, most areas of Patrick Air Force Base may be visited without escort and be photographed. Of special interest is the display of missiles in front of the Technical Laboratory south of Patrick Air Force Base on Route A1A.



the air force systems command

The Air Force Missile Test Center is part of the Air Force Systems Command (AFSC). AFSC, established on April 1, 1961, was formed from elements of two inactivated Air Force commands—the Air Research and Development Command and the Air Materiel Command.

The Air Force Systems Command is organized to accomplish the rapid advancement of aerospace technology and its adoption into operational aerospace systems. It is organized to provide the most up-to-date and effective management of Air Force scientific and technical resources, and is the single manager of all phases of acquisition of new aerospace systems.



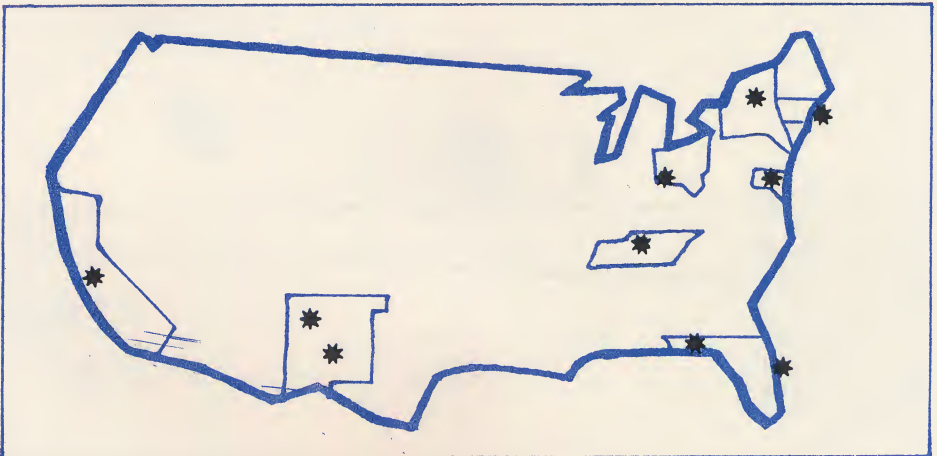
divisions and centers

The Air Force Systems Command, with headquarters at Andrews Air Force Base, Maryland, consists of four divisions and six test centers.

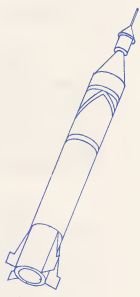


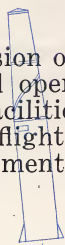

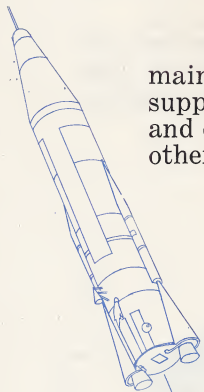
The four divisions are: the Ballistics Systems Division and the Space Systems Division, both located in the Los Angeles area; the Aeronautical Systems Division at Wright-Patterson Air Force Base, Ohio; and the Electronics Systems Division at L. G. Hanscom Field, Massachusetts.

The five centers in addition to the Air Force Missile Test Center are: the Air Force Flight Test Center at Edwards Air Force Base, California; the Air Force Special Weapons Center at Kirtland Air Force Base, New Mexico; the Arnold Engineering Development Center at Tullahoma, Tennessee; the Air Force Missile Development Center at Holloman Air Force Base, New Mexico; and the Air Proving Ground Center at Eglin Air Force Base, Florida.

The Air Force Systems Command also directs the operations of the Office of the Deputy Commander for Aerospace Systems in Los Angeles, to which are directly assigned both the Ballistic Systems Division and the Space Systems Division.



afmtc mission



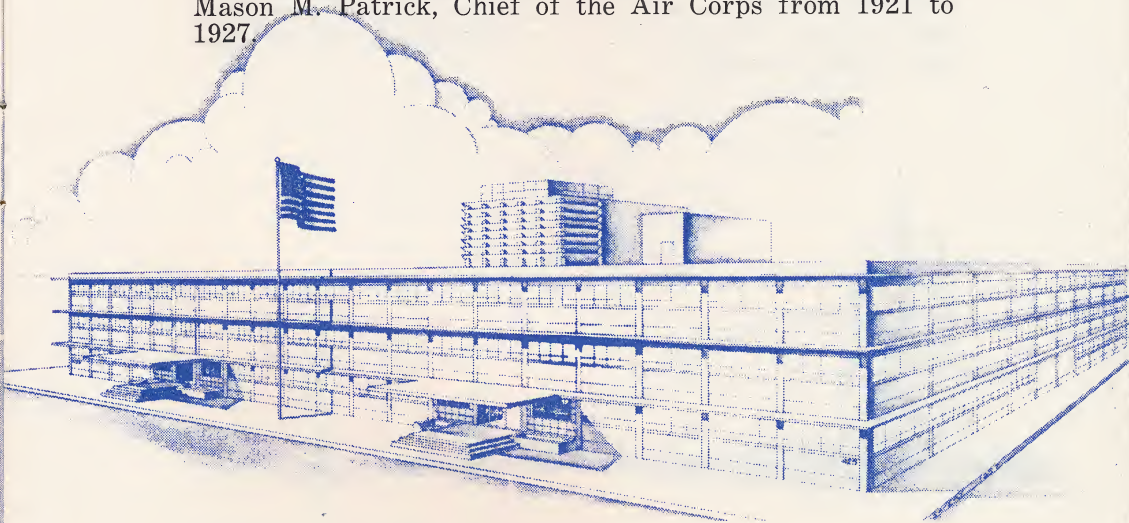
The mission of the Air Force Missile Test Center is to maintain and operate the Atlantic Missile Range and its supporting facilities; conduct missile test flights and collect and evaluate flight test data for the Air Force, Army, Navy, other Government agencies and missile contractors.

patrick air force base

Patrick Air Force Base is the administrative headquarters for the Air Force Missile Test Center. It provides supplies, aircraft, ground transportation and other support necessary to the operation of the Center.

It is located on Highway A1A about midway between Miami and Jacksonville on the east coast of Florida.

During World War II, the base was known as the Banana River Naval Air Station. It was transferred to the Air Force in 1949 and in 1950 was officially dedicated as Patrick Air Force Base in honor of Major General Mason M. Patrick, Chief of the Air Corps from 1921 to 1927.

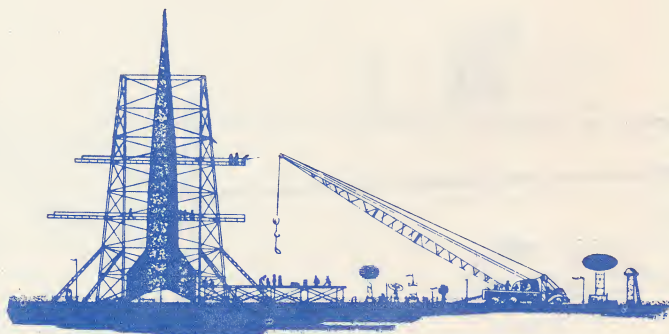


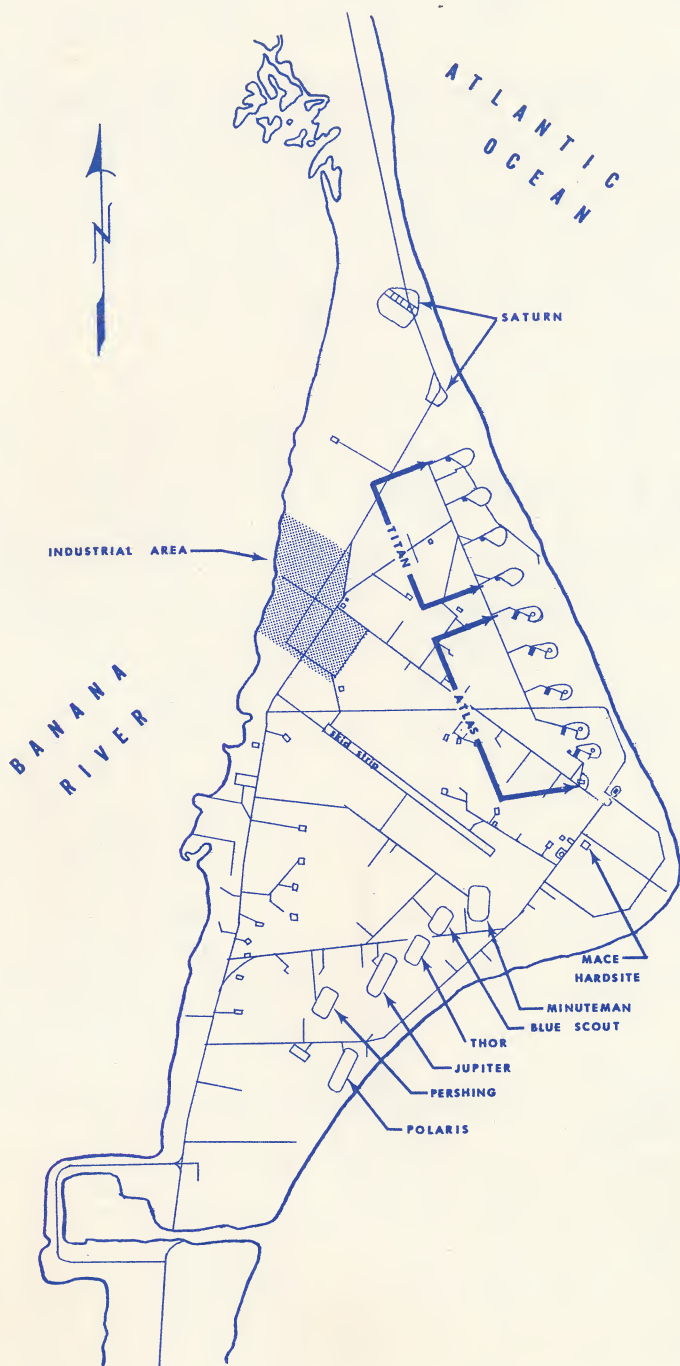
cape canaveral

Cape Canaveral, the Air Force's world-famous installation, is located 15 miles north of the administrative headquarters at Patrick Air Force Base, Florida. It is known, officially as Cape Canaveral Missile Test Annex and is Station #1 on the Atlantic Missile Range.

It is the launching site for America's major missiles, satellites and space vehicles. The first missile launch, a German V-2 rocket with a WAC Corporal second stage, took place on July 24, 1950. During the next ten years nearly one thousand missiles were launched.

Cape Canaveral was selected as a launch site because its location permits virtual unlimited over-water flight with a series of islands conveniently located for tracking stations. Covering approximately 25 square miles and due to expand with the advent of the lunar program, the Cape contains missile gantries, block houses, control centers, missile assembly buildings, a landing strip, telemetry, radar, radio and communications equipment, a liquid oxygen plant, and many support facilities such as a dining hall, fire stations and a small hospital.





ATLANTIC MISSILE RANGE

The Atlantic Missile Range extends several thousand miles down off the coast of the United States. In general, it includes some dozen plus instrumented ships and aircraft. The Range is the Free World's largest and is sometimes called the v

UNITED STATES

NORTH ATLANTIC OCEAN

AFRICA

SOUTH AMERICA

PACIFIC OCEAN

SOUTH ATLANTIC OCEAN

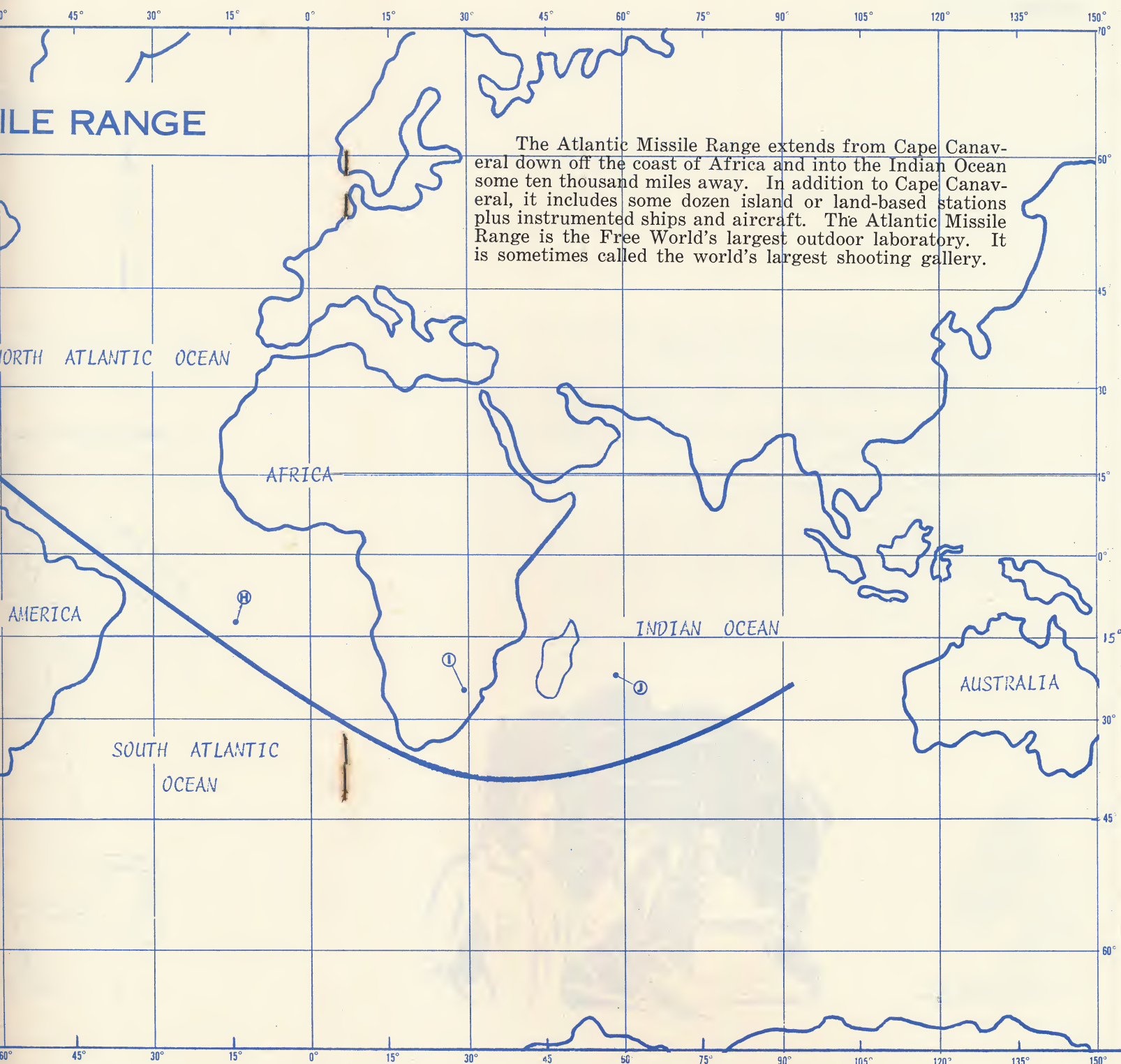
INDIAN OCEAN

MAJOR TRACKING STATIONS

- (A) CAPE CANAVERAL
- (B) GRAND BAHAMA
- (C) ELEUTHERA
- (D) SAN SALVADOR
- (E) MAYAGUANA
- (F) GRAND TURK

- (G) ANTIGUA
- (H) ASCENSION
- (I) PRETORIA
- (J) MAURITIUS

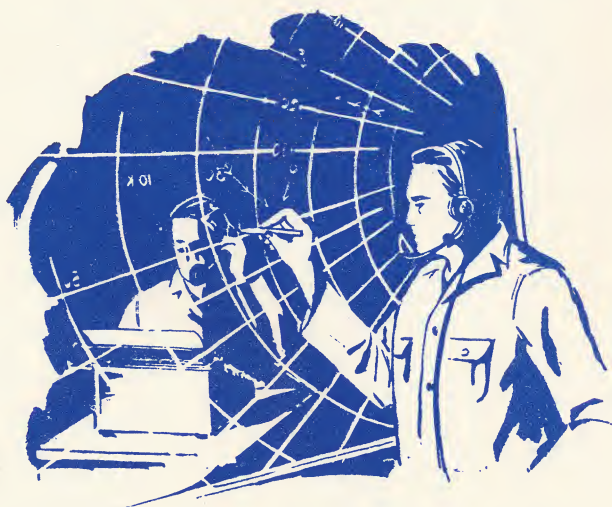
ILE RANGE



Safety is given an over-riding consideration on every missile launched from Cape Canaveral.

Danger areas are established on the Cape and cleared of people prior to launch. Crash boats patrol the water off-shore to warn small craft, and aircraft and radar monitor the range to point of impact to insure the safety of any shipping in the area.

Elaborate precautions are also taken with the missile to be launched. Each missile contains two separate explosive systems, each able to cause destruction. The explosive charges are activated by the Range Safety Officer whenever the missile veers from its intended path or instruments indicate the missile is not performing normally.

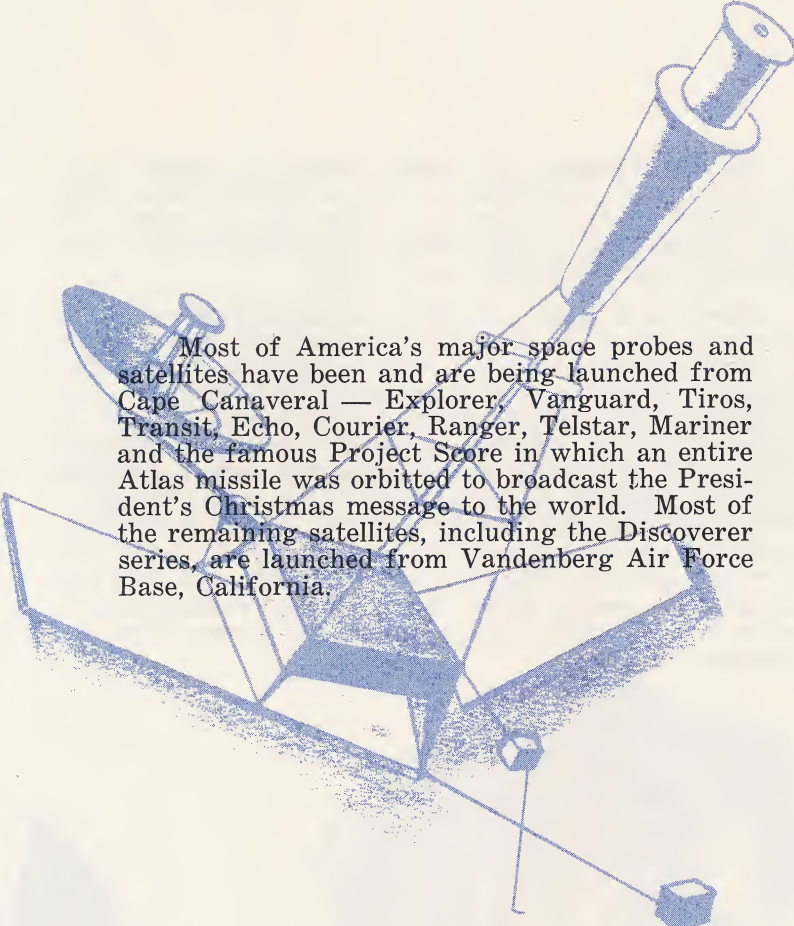


The main purpose of missile testing is to record missile performance under the most exacting conditions. The instruments used in gathering missile data are among the most sophisticated in the world, pinpointing errors and failures so that corrections can be made.

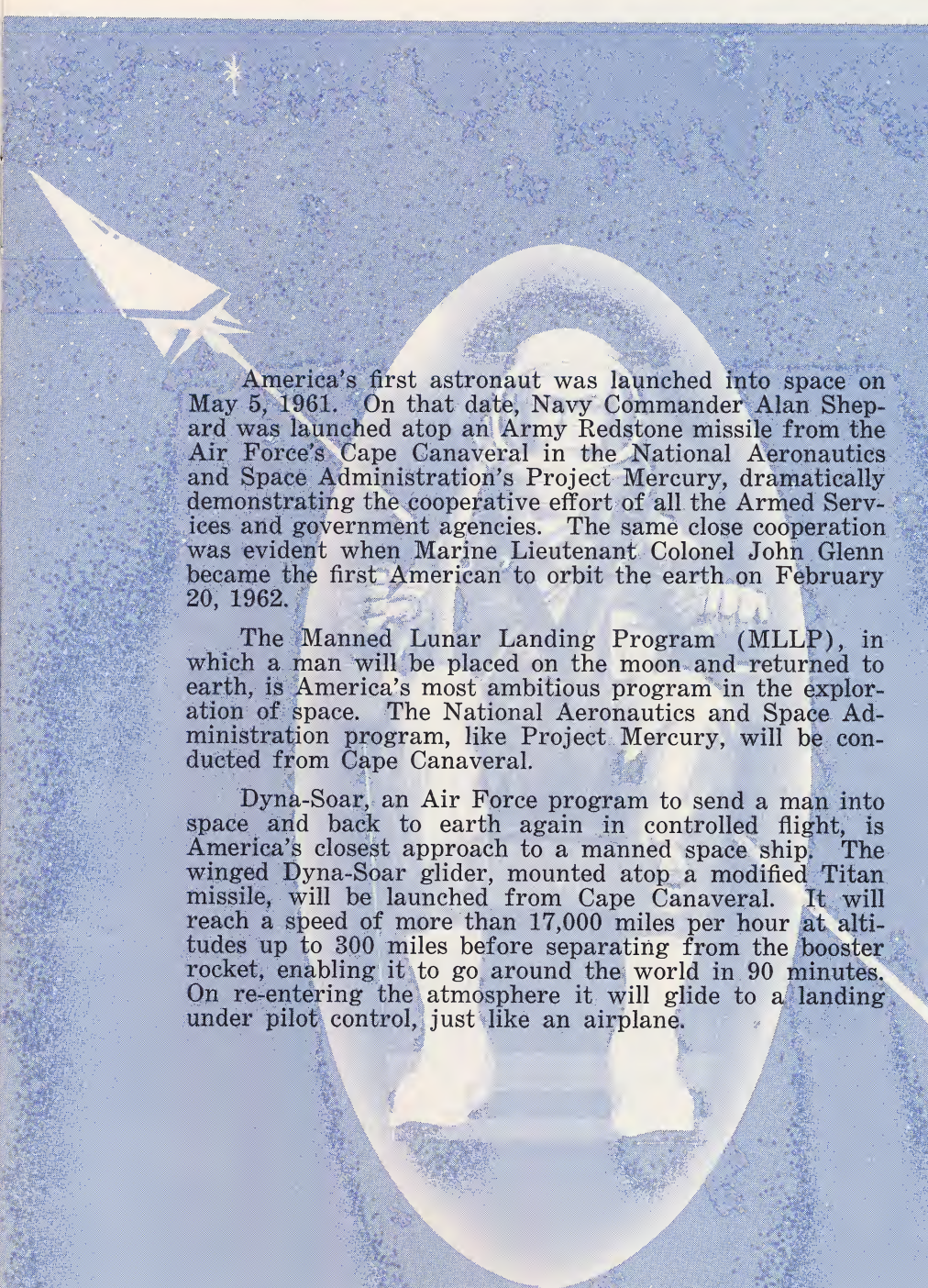
Once the missile is in flight, the instruments at Cape Canaveral and at the stations along the flight course begin to collect performance data. This is done mainly by radar, cameras, optical-tracking instruments and telemetry systems. Up to 75% of the data is gathered by telemetry. A telemetry system consists of small radio transmitters mounted inside the missile and equipped with pickup devices which sample such phenomena as pressure, temperature, acceleration and control movement. This data is converted into electronic signals and transmitted from the missile to the ground. When all the data is collected, it is forwarded to a central point, and it is then reduced into a usable form by those engaged in missile research and development programs.



space probes and satellites



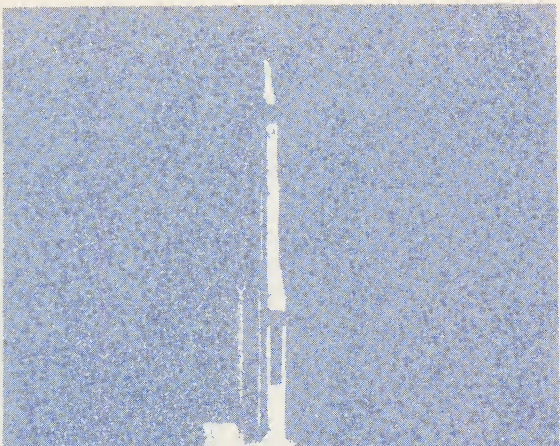
Most of America's major space probes and satellites have been and are being launched from Cape Canaveral — Explorer, Vanguard, Tiros, Transit, Echo, Courier, Ranger, Telstar, Mariner and the famous Project Score in which an entire Atlas missile was orbited to broadcast the President's Christmas message to the world. Most of the remaining satellites, including the Discoverer series, are launched from Vandenberg Air Force Base, California.



America's first astronaut was launched into space on May 5, 1961. On that date, Navy Commander Alan Shepard was launched atop an Army Redstone missile from the Air Force's Cape Canaveral in the National Aeronautics and Space Administration's Project Mercury, dramatically demonstrating the cooperative effort of all the Armed Services and government agencies. The same close cooperation was evident when Marine Lieutenant Colonel John Glenn became the first American to orbit the earth on February 20, 1962.

The Manned Lunar Landing Program (MLLP), in which a man will be placed on the moon and returned to earth, is America's most ambitious program in the exploration of space. The National Aeronautics and Space Administration program, like Project Mercury, will be conducted from Cape Canaveral.

Dyna-Soar, an Air Force program to send a man into space and back to earth again in controlled flight, is America's closest approach to a manned space ship. The winged Dyna-Soar glider, mounted atop a modified Titan missile, will be launched from Cape Canaveral. It will reach a speed of more than 17,000 miles per hour at altitudes up to 300 miles before separating from the booster rocket, enabling it to go around the world in 90 minutes. On re-entering the atmosphere it will glide to a landing under pilot control, just like an airplane.

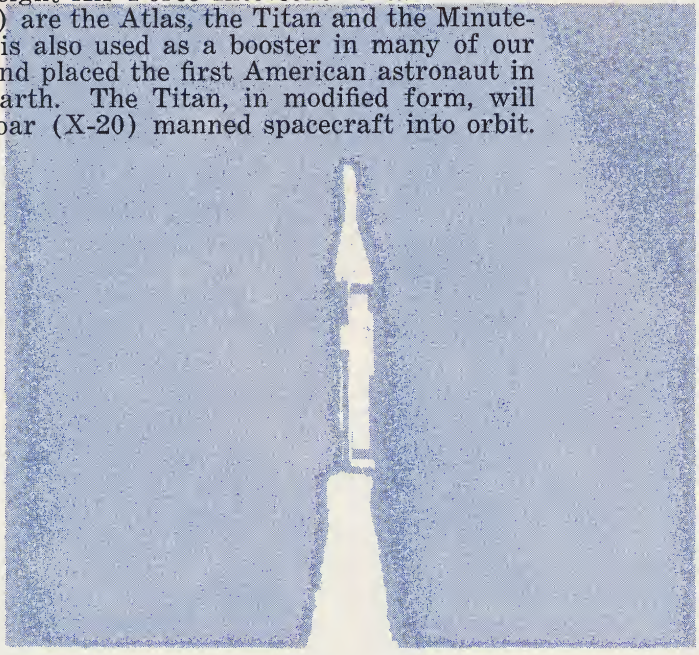


All of our nation's military space programs come under the Air Force, as do our long and medium range missiles.


The first missiles to undergo and complete testing at Cape Canaveral were the older cruise missiles—the Navaho, the Snark, the Matador and the Mace.

Our two Intermediate Range Ballistic Missiles (IRBM's), the Thor and the Jupiter, have also completed testing and are now operational — the Thor in England and the Jupiter in Italy. Both missiles, in modified form and with the addition of upper stages, have been used extensively for boosters in various space and satellite programs.

The heavy-weight Air Force Intercontinental Ballistic Missiles (ICBM's) are the Atlas, the Titan and the Minuteman. The Atlas is also used as a booster in many of our space programs and placed the first American astronaut in orbit about the earth. The Titan, in modified form, will boost the Dyna-Soar (X-20) manned spacecraft into orbit.



the other services

The seal of the Department of Defense is a large circular emblem. It features a blue outer ring with the words "DEPARTMENT OF DEFENSE" at the top and "UNITED STATES OF AMERICA" at the bottom, separated by two small stars. Inside the ring is a shield with a central eagle. Above the eagle is a semi-circle of thirteen stars, each with a vertical line extending upwards. Below the eagle are three crossed arrows. The text of the article is overlaid on the central part of the seal.

In addition to Air Force missiles, the Air Force Missile Test Center also conducts missile tests for the other military services. The most frequently tested of these are the Navy's Polaris, which is launched from land, shipboard or underwater from nuclear submarines and the Army's tactical-range Pershing. The Army's older liquid-fueled Redstone was adapted for use in putting America's first astronaut in space in National Aeronautics and Space Administration's Project Mercury.

surrounding area

Patrick Air Force Base is located on a narrow strip of coastal land between the Banana River and the Atlantic Ocean. The nearest towns are Cocoa Beach, which adjoins the base on the north, and Melbourne, Eau Gallie and Cocoa, which are connected by causeways.

The climate is generally mild throughout the year, but many cool days occur during the winter months. Heavy rainfalls herald the storm season in the early fall.

The central Florida coastal area is noted for citrus fruit, and farther inland are many cattle ranches and dairy farms.

Fishing is one of the most popular sports in the area and Cocoa is called the "Salt Water Capital of the World." The Banana and Indian Rivers are rich with trout, bass, drum, snook, flounder, while the Atlantic Ocean yields tarpon, sea bream, trout, sea bass, blues and snapper. The St. Johns River and the many freshwater lakes are a paradise for freshwater fishermen.

Duck and quail hunting is popular from mid-November to the end of January.

The entire area is served by bus, train and airplane, and there are numerous car rental services. The beaches and highways are lined with motels, and there are many modern shopping and business centers located throughout the area.

